

**ILLINOIS COMMERCE COMMISSION**

**IAWC EXHIBIT 3.00 (Rev.)**

**DIRECT TESTIMONY OF  
JEFFERY T. KAISER**

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**ILLINOIS-AMERICAN WATER COMPANY**

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**DIRECT TESTIMONY  
OF  
JEFFREY T. KAISER**

1                   **I.       WITNESS IDENTIFICATION AND BACKGROUND**

2   **Q1.   Please state your name and business address.**

3   **A.**   Jeffrey T. Kaiser, 100 North Water Works Drive, Belleville, Illinois 62223.

4   **Q2.   By whom are you employed and in what capacity?**

5   **A.**   I am employed by American Water Works Service Company, Inc. (the  
6       “Service Company”) as Director of Engineering for Illinois-American Water  
7       Company (“IAWC” or the “Company”).

8   **Q3.   Please summarize your education and employment history.**

9   **A.**   I received a Bachelor of Science degree in civil engineering from  
10       Washington University in St. Louis, Missouri in 1986. I am a registered  
11       professional engineer in the states of Illinois, Missouri, Arkansas and  
12       Indiana. I have over 25 years experience in the water and wastewater  
13       design and construction industry. From 1986 until April of 2008, I held  
14       various roles of increasing responsibility for large nationally-based  
15       engineering firms, including positions as project engineer, senior engineer,  
16       project manager, and office manager. In all these roles, the focus of my  
17       work was the water and wastewater industry. In these roles, I have been  
18       involved in, or have overseen the completion of, numerous planning,  
19       design, and construction projects ranging in size and scope from small  
20       sewer and water main extension projects to water and wastewater system

21 planning studies, and the design and construction administration of  
22 treatment plant improvement projects of up to \$280 million. In April of  
23 2008, I was employed by the Service Company as the Director of  
24 Engineering for IAWC, the position I currently hold.

25 **Q4. Are you a member of any industry or professional organizations?**

26 **A.** Yes. I am a member of the American Water Works Association and the  
27 Water Environment Federation.

28 **Q5. Please summarize your responsibilities as Director of Engineering**  
29 **for IAWC.**

30 **A.** I am responsible for planning, design and construction of water,  
31 wastewater, and other general facilities for the Company. My  
32 responsibilities include: administering the capital investment program for  
33 the company; ensuring compliance with state and federal requirements  
34 related to the planning for and delivery of the capital investment program;  
35 coordinating the procurement of all project design and construction  
36 services; providing comprehensive system planning for use in developing  
37 system needs and projecting capital spending; and supporting IAWC  
38 operations staff in performing plant/system troubleshooting. Although my  
39 primary responsibility is Director of Engineering for IAWC, I also perform  
40 some engineering work for Iowa-American Water Co. ("Iowa-American")  
41 and American Lake Water Co.

42 **Q6. As Director of Engineering for IAWC, are you familiar with the**

43 facilities and engineering operations of the Company in each of its  
44 rate areas?

45 A. Yes.

46 II. PURPOSE OF TESTIMONY

47 Q7. What is the purpose of your testimony?

48 A. My testimony describes the major capital projects completed by the  
49 Company in 2009 through 2011 year to date, and those major capital  
50 projects planned for completion in the remainder of 2011, the first nine  
51 months of 2012, and for the test year ending September 30, 2013. I have  
52 defined "major projects" as those having a Company investment of  
53 \$250,000 or greater. I also address historical capital expenditures and the  
54 relationship of planned to actual capital expenditures for prior periods.  
55 Next, I discuss the Demand Study prepared by the Company pursuant to  
56 the Commission's directives in IAWC's last rate case, Docket No. 09-  
57 0319. Finally, I address IAWC's Engineering function's procurement of  
58 necessary support services from the Service Company.

59 Q8. Are you sponsoring any exhibits with your Direct Testimony?

60 A. Yes. IAWC Exhibit 3.01 is an excerpt from the Peoria District  
61 Comprehensive Planning Study.

62 III. CAPITAL PROJECTS

63 Q9. Does the Company have a planning process for capital projects?

64 A. Yes. With regard to capital planning, the Company engages in a  
65 comprehensive planning process that assesses capital investment needs

for all aspects of operations and assigns funding to capital programs on a prioritized basis.

**Q10. Please describe the comprehensive planning process.**

**A.** This process begins with the development of the anticipated demand projections of the system, the identification of improvements needed to meet those demands and the adoption of strategies designed to bring about the correct prioritization and distribution of capital spending for the various needs of the business. Specific capital planning needs are addressed in both the short term (one year) and longer term (five years). Projects are prioritized within service districts and across the state using objective criteria that validate the need for a project and assess the risk of not doing the project. A key component of this planning technique is that it is flexible and can be adjusted as needed to address new needs, such as unplanned equipment failures, large or sudden growth of a service area, or new regulatory requirements. IAWC develops a proposed capital budget, which it then shares with the Service Company for review of the reasonableness of the projects proposed and their forecasted costs. Although the Service Company may make suggestions with respect to that budget, IAWC ultimately determines the budget. This process is the basis for the capital expenditures reflected in the Company's forecasted test year.

**Q11. Please summarize total plant additions for IAWC from 2009 through the September 30, 2013 test year.**

89 **A.** For water facilities, the Company invested approximately \$79.6 million in  
90 utility plant placed in service in 2009, \$77.5 million for plant placed in  
91 service in 2010, and \$12.3 million in utility plant placed in service in the  
92 first 6 months of 2011. The Company is planning to place in service  
93 additional plant, the cost of which will total \$163.6 million, for the  
94 remainder of 2011 through the September 30, 2013 test year end. This  
95 represents a planned investment in plant in service of approximately  
96 \$175.9 million for the period from the end of the last rate case test year,  
97 December 30, 2010, through the end of September 2013. For wastewater  
98 facilities, the Company invested approximately \$5.7 million in utility plant  
99 in service in 2009, \$4.4 million in utility plant in service in 2010, and \$2.3  
100 million in utility plant in service in the first 6 months of 2011. The  
101 Company is planning to place in service additional plant the cost of which  
102 will total \$11.6 million for the remainder of 2011 through the end of the test  
103 year. This represents a planned investment in plant in service of  
104 approximately \$13.9 million for the period from the end of the last rate  
105 case test year, December 31, 2010, through the end of September 2013.  
106 The major projects are described in greater detail below.

107 **Q12. Do these total plant additions include additional investments in water**  
108 **and wastewater facilities that are not specifically identified in this**  
109 **testimony?**

110 **A.** Yes. In addition to the major capital projects described below, the  
111 Company will also enhance or maintain current levels of service, quality,

reliability, and efficiency through smaller projects that do not meet the definition of a “major capital project.” These projects relate in part to extension or replacement of mains, minor plant and pump station improvements, and installation or replacement of services, hydrants, and meters. The totals above for 2009, 2010 and the first 9 (nine) months of 2011 reflect these smaller projects. The totals above for the remainder of 2011 through the September 30, 2013 test year end reflect IAWC’s projected expenditures for these smaller projects.

**IV. MAJOR 2009 CAPITAL PROJECTS**

**Q13. Please describe the major capital projects that were completed in 2009.**

**A.** The major capital projects completed in the year ending December 31, 2009 are as follows:

• **Alton District - Principia Pump Station Improvements (\$383,000) -**

This project included the replacement of the existing Principia Pump Station with a larger capacity pump station for the improvement of customer service, reliability, and public safety (fire flows) for existing customers within the Principia College and Village of Elsah area. The project also included the participation in the replacement of approximately 4,893 LF of 8-inch AC pipe with 16-inch HDPE pipe to further extend the reliability and public safety improvements realized with the improvements of the pump station.

• **Champaign District – Champaign County Source of Supply and**

**WTF Improvements (\$6,784,000)** - A new water treatment plant in the Champaign District was placed into service and began producing water for the customers of the Champaign District in December of 2008. The majority of the capital additions were placed into service at that time. Work completed during 2009 included site restoration, site paving, access road improvements, permanent power supply to remote well sites and other ancillary facilities. This work was completed in the spring and summer of 2009.

- **Champaign District - Church Street Main Replacement (\$596,000)** -

This project was required due to the expansion of Carle Hospital and the associated utility and street reconstruction. The project included the relocation of approximately 1300 LF of 16-inch water main from Busey St. to University Ave.

- **Chicago Water – Country Club Fire Pump and Main (\$887,000)** - To

improve fire flow capacity in the service area, three (3) 500 gallon per minute pumps were installed in the existing booster station building including associated building electrical and controls modifications. Additionally, approximately 170 lineal feet of 8-inch water main was installed to loop the distribution system.

- **Chicago Water – Valley Marina Water Tower (\$1,903,000)** - To

improve reliability and service during peak usage and to improve fire flow, a new 500,000 gallon elevated storage tank was constructed in the Valley Marina service area.

- 158 • **Chicago Water – Hollis Well Pump Replacement (\$599,000)** -To  
159 improve fire flow capacity in the service area, a second groundwater  
160 supply well was constructed and integrated with the existing well  
161 house. This increased the fire flow capacity of the water supply system  
162 and improved system reliability with redundant well pumps.
- 163 • **Chicago Water – Arbury Fire Flow Improvements (\$911,000)** - This  
164 project improved fire flow capacity in the Arbury service area. The  
165 project included approximately 5200 LF of new 8-inch water main  
166 (including fire hydrant and valves) installed to complete loops in the  
167 distribution system to increase flow and pressure.
- 168 • **Chicago Water – Maple Avenue Water Main Replacement**  
169 **(\$296,000)** - This project included the relocation of approximately 370  
170 LF of 16-inch water main to accommodate an IDOT bridge  
171 replacement project.
- 172 • **Chicago Water – Milwaukee Avenue Water Main Replacement**  
173 **(\$426,000)** - This project included the relocation/replacement of  
174 approximately 1220 LF of 8-inch water main with 14-inch HDPE to  
175 accommodate an IDOT road improvement project.
- 176 • **Chicago Water – Lisle Water Main Replacement Phase I (\$653,000)**  
177 - This project improved customer service, reliability and fire flows for  
178 existing customers. The project included the replacement of  
179 approximately 3860 LF of 6-inch diameter water main with 8-inch main  
180 along Bluebell Court, Meadow Lane and Westview Lane to double the

capacity of the existing water mains.

- **Chicago Waste Water – Milwaukee Avenue Force Main Replacement (\$341,000)** - This project included the relocation of approximately 1300 LF of 8-inch HDPE force main to accommodate an IDOT road improvement project.
- **Chicago Waste Water - Oak Valley Water Reclamation Facility (“WRF”) Expansion (\$3,074,000)** - This expenditure included the completion of odor control equipment installation, construction of plant site roadways, site restoration, and related final completion items for the Oak Valley WRF Expansion project which was placed in-service in 2008.
- **Chicago Waste Water – Country Club (unincorporated Elmhurst) Sewer Rehab (\$646,000)** - This project improved operational reliability, reduce infiltration and inflow, and aided in meeting environmental regulations by rehabilitating existing sewer lines within the Elmhurst collection system.
- **Chicago Waste Water – Waycinden Sanitary Collection System Rehabilitation Phase I (\$1,812,000)** - This project improved operational reliability, reduced infiltration and inflow, and aided in meeting environmental regulations by rehabilitating existing sewer lines within the Waycinden collection system through the installation of a cured in place structural pipe lining of approximately 3900 LF of 8-inch through 21-inch sewer.

• **Interurban - Belleville Distribution Office Improvements (\$999,000)**

- This project included the renovation of the Belleville Distribution Center building. The project updated the existing office space, distribution worker locker room, and meeting and training facilities, created 12 additional office spaces, a conference room, meter room, and legal and engineering file storage space within the existing structure.

• **Interurban - Abengoa Ethanol Main Extension (\$1,742,000)** - This

project included the construction of a 5,165 LF of 20-inch main to the Granite City Port District for a planned increase in use. The new main serves a new large industrial customer and improves service to the Tri-City Port District and existing residential and commercial customers within the area.

• **Interurban – E. St. Louis WTF Emergency Building Repairs**

**(\$490,000)** - This project, discussed above, included reconstruction of a wall in the 100 year-old high service pump building, which was found to be failing during a recent inspection. The project included providing temporary support of the roof, removal of the existing brick wall, and reconstruction of a block wall with brick veneer. The project will allow the continued use of the high service pump station at the WTF.

• **Interurban – E. St. Louis WTF Clarification Improvements**

**(\$889,000)** - This project improved operational reliability by replacing equipment that was beyond economical repair. Project scope included

the replacement of the existing chain and flight clarifier equipment in Basin #2 with a new chain and flight.

- **Lincoln - Replace SWTF Pressure Filters (\$832,000)** - This project improved operational reliability by replacing equipment that is beyond economical repair. Project scope included the replacement of the horizontal pressure filters and associated piping, valves and ancillary equipment.
- **Pekin – Well Number 9 (\$522,000)** - This project improved water quality and reduces capital and operational costs in the Pekin District. The project included the construction of a new Well 9 and support building to replace the existing Well 7 which had experienced nitrate levels above the allowable limits. Well 7 would have required more costly treatment measures to be installed and operated to remain in service.
- **Pekin – Well 9 Mains (\$154,000)** – This project went in service in December 2009 and included the installation of 1,500 feet of 12-inch main to allow for the new Well 9 to connect with the existing distribution system. The main installation was carried out at Velde and Lakecrest and Velde and Plymouth.
- **Peoria – Route 40 Main Relocation (\$360,000)** - This project included the relocation of approximately 1302 LF of 24-inch main and 260 LF of 8-inch main from Hickory Grove Road to the Route 40 Pump Station to accommodate a road improvement project and replace

approximately 1550 LF of 24-inch main that was originally installed in 1999. The work associated with this project was placed in service during October 2009.

- **Peoria – Hamilton Water Main Replacement (\$298,000)** - This project improved customer service, reliability and fire flows for existing customers. The project included the replacement of approximately 1600 LF of small diameter water main with 12-inch and 8-inch main.
- **Peoria – Manor, Melrose, Fairway, and Dixon Water Main Replacement (\$508,000)** - This project improved customer service, reliability and fire flows for existing customers. The project included the replacement of approximately 3400 LF of small diameter water main with 8-inch and 6-inch main.
- **Statewide - Business Systems Planning Study (\$625,000)** - This study consisted of a comprehensive review and analysis of information technology systems and recommendations for their improvement. The study is provided as IAWC Exhibit 9.01. This review and analysis identified the investments necessary to replace and upgrade applicable system components through the business transformation program, as discussed by IAWC witness Mr. Twadelle (IAWC Ex. 9.00).

## **V. MAJOR 2010 CAPITAL PROJECTS**

**Q14. Please describe the major capital projects that were completed in 2010.**

**A.** The major capital projects completed and placed in service in 2010 were

as follows:

- **Alton District Office Renovation Phase II (\$691,000)** - This project included the replacement of the building roof, parking areas and sidewalks which had previously been repaired and were beyond effective additional repair. Improvements were also made to restrooms and locker rooms to replace flooring, fixtures, and ceilings that had exceeded their intended useful life.
- **Alton - System Improvements to Serve Grafton (\$623,000)** - This project allowed service to be extended to a new sale for resale customer to the north of the existing service area. The project scope included the installation of approximately 8,910 LF of 12-inch main to increase flow capacity to the northern sections of the existing Alton District and extend service (sale for resale) to the Village of Grafton, Illinois which had its wells deemed unsafe by the Illinois EPA.
- **Alton - Route 3 Booster Upgrade (\$1,078,000)** – This project included the replacement of a below grade pumping station with an above grade pump station. The replacement pump station increased the pumping capacity from two (2) 1.0 mgd pumps to three (3) 1.5 mgd pumps to allow the station to meet anticipated future demands and provided improved fire flow to the Principia gradient. The new station includes a natural gas generator to allow for reliable service during loss of main power.
- **Alton - Mills Avenue Small Main Replacement (\$387,000)** – This

project improved customer service, reliability and fire flows for existing customers. The project included the replacement of approximately 1900 LF of 2-inch water main with 8-inch main on Mills Avenue from Pine Street to Brown Street.

- **Alton – Rosenberg Main Replacement (\$512,000)** – This project improved customer service, reliability and fire flows for existing customers and replaced a segment of main with historic main break problems. The project included the replacement of approximately 2400 LF of 2-inch water main with 8-inch main on Rosenberg Avenue at the Clifton Terrace community.
- **Alton – Grafton Main Extension (\$540,000)** – This project provided a service connection to the Village of Grafton. The project included the installation of approximately 8900 LF of 12-inch water main from Principia College to the Village of Grafton Meter Vault.
- **Alton – Clifton Terrace Main Extension (\$611,000)** – This project included the construction of a new main in the Clifton Terrace community to improve fire flow and peak hour pressures in the service area above the river bluffs north of Alton. The project included the installation of approximately 4000 LF of 8-inch water main from the River Road to IL Route 3.
- **Champaign - Mattis Ave. WTF Plant Improvements (\$5,951,000)** - This project was required to meet regulatory requirements related to the amount of chlorine contact time of the existing WTF. The project

scope included the construction of a pair of 800,000 gallon clearwells to serve the East and West treatment trains. The clearwells allows the Mattis facility to meet the required 60 minutes of chlorine contact time and also the treatment facility to meet 4 log virus inactivation and 3 log giardia removal standards. The project also included the addition of rate of flow controllers to the East treatment unit to allow efficient utilization of the additional clearwell capacity and additional work to modernize the control valves within the treatment train. The retirement of the 1960's submerged filter train was also included in this project due to the inability of the treatment train to meet current regulatory requirements and the existing equipment and structures being at the end of their useful life.

- **Champaign - Distribution System Improvements Phase 2**

**(\$6,144,000)** - This project improved system pressures, reliability, and customer service to the Champaign District customers. The project scope included the construction of approximately 35,000 LF of 16-inch, 24-inch, and 36-inch transmission mains to complete the connection of the new Champaign Plant to additional connection points within the existing Champaign District distribution system.

- **Champaign – Curtis Road Main Extension Phase 3 (\$545,000)** -

This project improved system pressures, reliability, and customer service to the Champaign District customers. The project scope included the construction of approximately 3900 LF of 16-inch

transmission main to complete a loop of the southwest portion of the distribution system.

- **Champaign – Staley Road Main Extension (\$303,000)** - This project is designed to improve system pressures, reliability, and customer service to the Champaign District customers. The project scope includes the construction of approximately 4000 LF of 12-inch main to eliminate a dead end north of Springfield Avenue.
- **Champaign – Fair Street and Royal Court Main Replacement (\$415,000)** - This project improved customer service, reliability and fire flows for existing customers. The project included the replacement of approximately 2400 LF of small diameter water main with 6-inch main on Fair Street from Springfield Avenue to Park Street and on Royal court.
- **Chicago Water – Chicago Suburban Water Main Replacement (\$632,000)** - This project included the installation of an automated emergency interconnection meter and valve vault with the Village of Mount Prospect municipal water system to improve fire flow capacity in the service area. The project additionally included the construction of approximately 242 lineal feet of 12-inch water main across Kensington Drive to improve service pressure and fire flow capacity.
- **Chicago Water – Bolingbrook Lily Cache Lane Water Utility Relocation Phase I (\$287,000)** - This project included the relocation of approximately 400 LF of 6-inch and 10-inch water main and

adjustments to existing valves and hydrants to accommodate the widening of Lily Cache Lane from Veterans to Orchard by the Village of Bolingbrook.

- **Chicago Water – Chicago Suburban Water Main Improvements**

**(\$582,000)** - This project improved system pressures, reliability, and customer service to the Chicago Suburban service area customers through a series of water main improvements. The project scope included replacing 6-inch water main with 8-inch and 10-inch mains, and installing 12- inch main to eliminate dead ends.

- **Chicago Water – Prospect Heights Camp McDonald Rd. Water**

**Main and Interconnect (\$484,000)** - This project improved system allows for emergency supply and wholesale water supply service to the Village of Prospect Heights. The project included the installation of redundant 12-inch interconnecting water main and an automatic interconnect that will allow for emergency support and improved reliability of the wholesale supply to the Village of Prospect Heights.

- **Chicago Water – Lombard New Water Main on Sunset Ave.**

**(\$866,000)** - This project included the installation of approximately 2750 lineal feet of new 8-inch water main along Sunset Ave to loop the existing dead end water mains in order to improve fire flow capacity of the system.

- **Chicago Water – Central States Fire Flow Project (\$404,000)** - This

project improved fire flow to customers in the Central States service

area. The project scope included the construction of an automated emergency interconnection meter and valve vault with the City of Joliet municipal water system to improve fire flow capacity in the service area. The project additionally included the construction of approximately 80 LF of 8-inch water main to connect to the City water system.

- **Chicago Water – Arrowhead Fire Flow Main Replacement Project**

**(\$312,000)** - This project improved fire flow to customers in the Arrowhead service area. The project scope included the construction of an automated emergency interconnection meter and valve vault with the City of Wheaton municipal water system to improve fire flow capacity in the service area. The project additionally included the construction of approximately 175 lineal feet of 8-inch water main to connect to the City water system.

- **Chicago Water – Fernway Fire Flow Main Replacement Project**

**(\$539,000)** - This project improved service pressure and fire flow to customers in the Fernway service area. The project scope included the replacement of 1086 LF of 8-inch water main with 12-inch water main.

- **Chicago Water - Waycinden GS Tank Replacement (\$635,000) -**

This project replaced an existing ground storage tank which was beyond economical repair. The project scope included demolition of the existing concrete storage tank and construction of a new tank in

the same location. The existing tank foundation was re-used to reduce construction cost and disruption to neighboring properties during construction.

- **Chicago Waste Water – Bolingbrook Boughton Rd. Sanitary Rehabilitation (\$549,000)** - This project improved operational

reliability, reduced infiltration and inflow, and replaced a structurally deficient large diameter sewer lines within the Bolingbrook wastewater collection system through Insituform Cured-in-Place structural pipe lining of: 1594 LF of 24-inch sewer, and 2502 LF of 27-inch sewer.

- **Chicago Waste Water – Waycinden – Country Club Sanitary Sewer Rehabilitation Phase II (\$1,442,000)** - This project improved

operational reliability, reduced infiltration and inflow, and aided in meeting environmental regulations by rehabilitating existing sewer lines within the Waycinden wastewater collection system through Insituform Cured-in-Place structural pipe lining of: 17,682 LF of 8-inch sewer, 1305 LF of 10-inch sewer, 7399 LF of 12-inch sewer, 3359 LF of 15-inch sewer, 848 LF of 18-inch sewer, 826 LF of 21-inch sewer, 710 LF of 24-inch sewer, and 565 LF of 27-inch sewer. Additional work included sanitary sewer spot replacements and rehabilitation to 70 manhole structures.

- **Chicago Waste Water – Fox Hills Lift Station Replacement (\$357,000)** - This project consisted of replacing an aging sanitary

sewer pumping station with a modern and more efficient submersible

434 pump station, including the installation of an onsite emergency  
435 generator. The project provides more reliable operation, reduced risk  
436 of sewage back-ups and provides a safer work environment for the  
437 operators by eliminating confined space work areas.

438 • **Interurban - East St. Louis WTP Sewer Relief and Switchgear**

439 **(\$766,000)** – This project addressed the ongoing issues and failures  
440 experienced by the East St. Louis WTP sewer relief pumps and force  
441 main. High solids in the filter backwash and solids removal activities  
442 caused ongoing maintenance issues of the sewer relief pumps and the  
443 force main that discharged from the sewer relief pumps and ongoing  
444 leaks in the cast iron main. The project addressed the relief pumps by  
445 installing a higher quality pump with bearings designed for residual  
446 conditions and installing a Variable Frequency Drive (VFD) to allow for  
447 more efficient operation. In addition the project rehabilitated the force  
448 main by lining the main with 1,926 LF of 20-inch Insituform Liner to  
449 provide structural stability and extend the life of the force main.

450 • **Interurban - PAC Improvements (\$4,916,000)** - This project included

451 the installation of new powdered activate carbon (“PAC”) storage and  
452 feed systems for the Granite City WTF, East St. Louis WTF  
453 Conventional Plant and the East St. Louis WTF Aldrich Plant. The new  
454 systems improve chemical feed operation, increase storage and feed  
455 quantity, improve the fire safety of PAC storage, and eliminate  
456 equipment-damaging PAC dust from common areas of the plant.

• **Interurban – French Village PS Chlorine Improvements (\$331,000)**

- This project included the installation of new flow meter and chlorine feed location to provide improved control of the chlorine system at the pump station. It improved system reliability and safeguard water quality for the Belleville service area several sale-for-resale customers.

• **Interurban – Granite City, Route 3 Water Main Replacement (\$1,833,000)**

- This project included the replacement of approximately 300 LF of 8-inch water main beneath IL Route 3 in Granite City. The project was required by the presence of a sinkhole causing damage to the water main and subsequent damage to the adjacent sewer line and IDOT Route 3 paving.

• **Interurban – Shiloh, Frank Scott at Cromwell Water Main Installation (\$251,000)**

- This project included the installation of approximately 2400 LF of 16-inch water main to close a loop in the distribution system near Greenmount Road. The project improved customer service, increased pressure, and improved fire flow to the Shiloh area of the Interurban District.

• **Interurban – Granite City, Missouri Avenue Small Water Main Replacement (\$273,000)**

- This project improved customer service, reliability and fire flows for existing customers. The project included the replacement of approximately 1400 LF of 2-inch water main with 8-inch main on Missouri Avenue from 21<sup>st</sup> to 24<sup>th</sup> Street.

• **Interurban – Granite City, 6<sup>th</sup> Street Small Water Main**

**Replacement (\$282,000)** - This project improved customer service, reliability and fire flows for existing customers. The project included the replacement of approximately 1300 LF of 2-inch water main with 8-inch main on 6<sup>th</sup> Street from Ewing Street to Madison Avenue.

- **Interurban – Belleville, Deep Well Pump Station Water Main**

**Installation (\$446,000)** - This project included the installation of approximately 1900 LF of 16-inch and 24-inch water main to provide a second feed and improve service to the south side of IL Route 15. The project improved customer service and reliability, increased pressure, and improved fire flow to the section of the Belleville service area near IL Route 159 south of IL Route 15.

- **Interurban – Belleville, 17<sup>th</sup> Street Water Main Relocation**

**(\$821,000)** - This project included the relocation/replacement of approximately 2800 LF of 8-inch water main with 16-inch main on 17<sup>th</sup> Street from West Main Street to Bunsen Avenue. The project was required by the City of Belleville due to a major road reconstruction project on South 17<sup>th</sup> Street.

- **Interurban – East St. Louis, 29<sup>th</sup> and Jefferson Street Small Water**

**Main Replacement (\$347,000)** - This project improved customer service, reliability and fire flows for existing customers. The project included the replacement of approximately 2000 LF of 2-inch water main with 8-inch main on Jefferson from Olive to Ridge Street and from 29<sup>th</sup> to 31<sup>st</sup> Street.

- 503 • **Interurban – East St. Louis, Trendley Avenue Small Water Main**  
504 **Replacement (\$446,000)** - This project improved customer service,  
505 reliability and fire flows for existing customers. The project included  
506 the replacement of approximately 2800 LF of 2-inch water main with 8-  
507 inch main on Trendley Ave. from 27<sup>th</sup> to 35<sup>th</sup> Street.
- 508 • **Interurban – East St. Louis, Roselake Drive Main Extension**  
509 **(\$442,000)** - This project improved customer service, reliability and fire  
510 flows for existing customers. The project included the installation of  
511 approximately 4200 LF of new 12-inch water main to improve flow and  
512 pressure to the Fairmont City service area.
- 513 • **Interurban – Yorktown Elevated Storage Tank Property**  
514 **Acquisition (\$287,000)** - This project included the purchase of real  
515 estate immediately adjacent to the Yorktown storage tank. The  
516 property is necessary to allow working room for maintenance (painting)  
517 of the existing elevated structure and for the planned construction of a  
518 distribution system maintenance yard on the northeastern side of the  
519 Interurban District. The additional working room will reduce painting  
520 costs and the distribution yard will improve customer service and  
521 reduce maintenance costs by significantly reducing travel time for  
522 trucks and equipment to reach worksites in the District.
- 523 • **Pekin – Well 2 Raw Water Main (\$347,000)** - This project was  
524 required to meet regulatory requirements for water quality due to  
525 historical groundwater contamination in the local aquifer. The project

included the installation of approximately 700 LF of 12-inch water main from Well 2 to the Well 1 / Well 3 treatment system to increase the available water supply for the treatment process.

- **Peoria – Griswold Standby Power (\$613,000)** - This project is designed to improve operational reliability through the installation of permanent standby power for the Griswold Well Station. The project scope included moving an existing undersized generator from the Dodge Street Well Station to the Griswold Well Station and installation of a new generator at Dodge Street to provide standby power. The relocated generator provides adequate standby power for two of the three largest wells at the Griswold Well Station.

- **Peoria – Northmoor and Sheridan Water Main Replacement (\$522,000)** - This project improves customer service, reliability and fire flows for existing customers. The project included the replacement of approximately 1500 LF of small diameter water main with 8-inch main.

- **Peoria – University Avenue Water Main Replacement (\$790,000)** - This project is designed to improve customer service, reliability and fire flows for existing customers. The project included the replacement of approximately 3100 LF of small diameter water main with 6-inch and 12-inch main.

- **Peoria – Allen and Wilhelm Water Main Installation (\$338,000)** - This project is designed to improve customer service, reliability and fire flows for existing customers. The project included the installation of

approximately 450Lf of 12-inch main, 300 LF of 8-inch main and 50 LF of 6-inch main to close loops, replace main, and improve system hydraulics.

- **Streator WTF Improvements (\$5,228,000)** - This project is designed to improve operational reliability and water quality by replacing equipment that is beyond economical repair and enhancing the treatment system. The project scope included the replacement of the clarification equipment, addition of a powdered activated carbon ("PAC") storage and feed system to improve water quality, associated electrical improvements, and improvements to existing sludge handling facilities.

- **Streator – Kent Street Water Main Relocation Phase 1 (\$447,000)** - This project included the relocation of approximately 2200 LF of 6-inch water main on Kent Street and Illinois Street. The project was required by the City of Streator due to a major sewer reconstruction project.

- **Streator – Kent Street Water Main Relocation Phase 2 (\$728,000)** – This project included the relocation of approximately 4300 LF of 6-inch water main on Illinois Street from Main Street to Morrell Street. The project was required by the City of Streator due to a major sewer reconstruction project.

## VI. **MAJOR 2011 CAPITAL PROJECTS**

**Q15. Please describe the major capital projects completed or planned for completion in 2011.**

A. The major capital projects completed and placed in service in 2011 or planned for completion in 2011 are as follows:

- **Alton – Principia College Main Replacement (\$452,000)** - This project is designed to improve customer service, reliability and fire flows for existing customers and the Village of Grafton IL. The project included the replacement of approximately 2900 LF of 8-inch asbestos cement water main with 12-inch main on the Principia College property.
- **Alton – Fosterburg Road Main Relocation (\$325,000)** - This project improved customer service, reliability and fire flows for existing customers and relocated the water main in advance of a local road improvement project. The project included the replacement of approximately 3200 LF of 8-inch water main with 12-inch main on Fosterburg Road from Wonderland to the Illinois Department of Mental Health facility.
- **Champaign – Replace Neil Street Booster Station (\$700,000)** - This project was required to maintain reliable customer service by replacing pumps, drives, control and electrical which was no longer dependable and is beyond cost effective repair. The project included renovating the existing structure and installation of new variable speed pumps to reduce energy costs and improve efficiency of the station. The project also included the addition of back-up generation to allow for reliable service of the station during periods of the loss of main power to the

station.

- **Champaign – Illinois Street Main Replacement (\$334,000)** - This project improved customer service, reliability and fire flows for existing customers. The project included the replacement of approximately 1300 LF of small diameter water main with 6-inch main on Illinois Street from Vine to Anderson.
- **Champaign – Market Street Main Replacement (\$250,000)** - This project is designed to improve customer service, reliability and fire flows for existing customers. The project included the replacement of approximately 1500 LF of small diameter water main with 8-inch and 12-inch main on Market Street.
- **Chicago Water – River Grange Water Main Replacement (\$660,000)** - This project was required to maintain reliable customer service by replacing aged cast iron water main which had reached the end of its useful life and had been subject to increased break history. The project included the replacement of approximately 3640 LF of existing 4-inch water main with new 8-inch water main, fire hydrants, valves, and new customer service connections.
- **Chicago Water – Waycinden, Elmhurst and Algonquin Roads Water Main Replacement (\$723,000)** - This project was required to maintain reliable customer service and improve system pressures and fire flow. The project included the replacement of approximately 1000 LF of existing 6-inch water main with new 12-inch and 16-inch water

main.

- **Chicago Water – Bolingbrook Lily Cache Lane Water Utility Relocation Phase II (\$437,000)** - This project included the relocation of approximately 1200 LF of 10-inch water main and the relocation or replacement of 9 fire hydrants to accommodate the widening of Lily Cache Lane by the Village of Bolingbrook.
- **Chicago Waste Water – Homer Glenn Chickasaw Collection Basin CIPP Lining (\$648,000)** - This project improved operational reliability, reduced infiltration and inflow, and aided in meeting environmental regulations by rehabilitating existing sewer lines within the Chickasaw wastewater collection system through Insituform Cured-in-Place structural pipe lining of: 16,532 LF of 8-inch sewer, 1128 LF of 10-inch sewer, and 1590 LF of 18-inch sewer.
- **Chicago Waste Water – Valley Marina Collection System CIPP Lining (\$648,000)** - This project improved operational reliability, reduced infiltration and inflow, and aided in meeting environmental regulations by rehabilitating existing sewer lines within the Valley Marina wastewater collection system through Insituform Cured-in-Place structural pipe lining of: 4507 LF of 8-inch sewer and 676 LF of 10-inch sewer as well as the replacement of 10 manholes, structural lining of 8 manholes and structural repairs to 10 manholes.
- **Chicago Waste Water – Bolingbrook Collection System CIPP Lining (\$563,000)** - This project improved operational reliability,

reduced infiltration and inflow, and aided in meeting environmental regulations by rehabilitating existing sewer lines within the Bolingbrook wastewater collection system through Insituform Cured-in-Place structural pipe lining of 16,733 LF of 8-inch sewer and 451 LF of 10-inch sewer.

- **Chicago Waste Water - Foxcroft Lift Station Replacement**

**(\$400,000)** - This project consisted of replacing an aging sanitary sewer pumping station with a modern and more efficient submersible pump station including the installation of an onsite emergency generator. The project provided more reliable operation, reduced risk of sewage back-ups and provided a safer work environment for the operators by eliminating confined space work areas.

- **Chicago Waste Water – 107<sup>th</sup> Street Lift Station Site Improvements**

**(\$283,000)** - Due to the widening of 107<sup>th</sup> Street by the Village of Bolingbrook, access to the small site of the pump station would be restricted and no longer possible from the current driveway. This project included the purchase of adjacent property, demolition of existing structures, and construction of a new driveway and parking area which will allow access to the pump station without parking on a four lane road as well as truck/crane access to the generator and other heavy equipment located at the rear of the site.

- **Chicago Waste Water – Algonquin Road Lift Station Replacement**

**(\$552,000)** - This project consisted of replacing an aging sanitary

sewer pumping station with a modern and more efficient submersible pump station including the installation of an onsite emergency generator. The project provided more reliable operation, reduced risk of sewage back-ups and provided a safer work environment for the operators by eliminating confined space work areas

- **Interurban – Belleville, Town Hall Road Water Main Installation**

**(\$280,000)** - This project included the installation of approximately 3600 LF of 12-inch water main to close a loop in the distribution system near on Townhall Road. The project improved customer service, increased pressure, and improved fire flow to the southwestern area of the Belleville service area.

- **Interurban – East St. Louis, Kingshighway Water Main**

**Replacement (\$600,000)** - This project included the installation of approximately 1650 LF of 16-inch water main to increase distribution system capacity from Hill Street to the General Chemical facility. The project improved customer service, increase pressure, and improve fire flow to the area around Kingshighway in the East St. Louis service area.

- **Interurban – Belleville, Sherman Avenue Small Water Main**

**Replacement (\$450,000)** - This project improves customer service, reliability and fire flows for existing customers. The project included the replacement of approximately 2600 LF of 2-inch water main with 8-inch main on Sherman Ave. from Orchard Drive to East D Street.

- 687 • **Interurban – Belleville, IL Route 159 at Douglas Ave Main**  
688 **Replacement (\$446,000)** - This project is designed to improve  
689 customer service, reliability and fire flows for existing customers. The  
690 project included the replacement of approximately 800 LF of 6-inch  
691 water main with 8-inch main to facilitate the replacement a railroad  
692 crossing which had previously been abandoned due to leakage  
693 problems.
- 694 • **Interurban – Belleville, IL Route 158 Phase 3 Main Relocation**  
695 **(\$985,000)** - This project included the installation of approximately  
696 4300 LF of 24-inch and 16-inch main to accommodate IDOT  
697 improvements to the highway. The existing main was installed within  
698 Illinois State ROW. The new main was installed in an easement where  
699 practical to avoid future relocation requirements.
- 700 • **Interurban – Belleville, IL Route 158 Phase 4 Main Relocation**  
701 **(\$1,076,000)** - This project included the installation of approximately  
702 5300 LF of 8-inch main to accommodate IDOT improvements to the  
703 highway. The existing main was installed within Illinois State ROW.  
704 The new main was installed in an easement where practical to avoid  
705 future relocation requirements.
- 706 • **Lincoln – South WTP Pump Station Replacement (\$1,595,000)** -  
707 Due to the age and the potential for flooding of the existing pump  
708 station, a new high service pump station and new electrical feed to the  
709 pump station was constructed at the South WTP. This new pump

station improved customer service by improving reliability of the station and it reduced electrical usage.

- **Peoria – Main Station WTP Filters and DBP Improvements**

**(\$16,168,000)** – Due to geographic shifting of demands in the Peoria District and compliance implications for the Main Station WTP of pending US and IL EPA regulations to lower the concentrations of compounds formed by the reaction of disinfection chemicals with naturally occurring dissolved organic carbon in the water supply (Disinfection By-Product regulations), IAWC performed an evaluation of treatment and supply options to meet the future needs of the Peoria District. A summary of this evaluation is included in the Peoria District Comprehensive Planning Study excerpt attached as IAWC Exhibit 3.01. This evaluation determined the most effective option was to complete a plant expansion and process upgrade project at the existing Main Station WTP. The project included the demolition of outdated treatment units, modification of flocculation and settling tanks, construction of new filters, addition of an Ultraviolet (UV) disinfection system, and additional clearwell capacity to meet new regulatory Disinfection By-Product (DBP) limits and expand the current capacity of the plant to meet demands in the northern area of the Peoria distribution system.

- **Peoria – Carriage Lane at Allen Road 12 inch Water Main**

**(\$369,000)** - This project includes the installation of 1837 LF of 12-inch

water main to close connect dead-end mains within the system to improve customer reliability, improve fire flow, and meet anticipated peak demands.

- **Peoria – Pennsylvania Ave Water Main Replacement (\$522,000) -**

This project improves customer service, reliability and fire flows for existing customers. The project includes the replacement of approximately 2800 LF of small diameter water main with 8-inch main.

## **VII. MAJOR 2012 CAPITAL PROJECTS (9 MONTHS)**

**Q16. Please describe the major capital projects planned for completion in the first nine months of 2012.**

**A.** The major capital projects planned for completion in the first nine months of 2012 are as follows:

- **Champaign – Pesotum Oak Street Main Replacement (\$250,000) -**

This project improves customer service, reliability and fire flows for existing customers. The project includes the replacement of approximately 2100 LF of small diameter water main with 6-inch main on

Oak Street from Chestnut to Lincoln.

- **Champaign – Coler Street Main Replacement (\$334,000) -** This

project improves customer service, reliability and fire flows for existing customers. The project includes the replacement of approximately 1500 LF of small diameter water main with 6-inch main on Coler Street from the High Street to Washington.

- 756 • **Chicago Water – Ridge Crest Fire Flow Project (\$548,000)** - This  
757 project will improve service pressure and fire flow to customers in the  
758 Ridge Crest service area. The project scope is currently under  
759 development due to changes in a planned interconnect with the Village  
760 of Morris.
- 761 • **Chicago Waste Water – Marina Water Reclamation Facility**  
762 **Replacement (\$3,407,000)** - This project will eliminate (and  
763 decommission) the existing Marina WRF and offload the treatment of  
764 wastewater to the Fox Metropolitan Water Reclamation District. The  
765 project includes the construction of new sewers to transport the  
766 collected wastewater to the Fox Metro system and the payment of  
767 connection fees to reserve capacity within the Fox Metro WWTP. The  
768 Company has evaluated options including replacement of the  
769 treatment plant. Based upon current negotiations with Fox Metro it is  
770 anticipated that the offloading option will be the most economical  
771 solution for wastewater treatment in this service area.
- 772 • **Interurban – 36 inch Stockyards Main Replacement (\$471,000)** -  
773 This project includes the replacement and relocation of a 36 inch water  
774 main with a 48-inch water main near the National City Stockyards in  
775 East. St. Louis. This project is to coordinate with the IDOT Mississippi  
776 River Bridge projects to eliminate hydraulic restrictions at the end of  
777 the IDOT required main relocations and improve pumping efficiencies  
778 and customer service during peak usage periods.

- 779       • **Peoria – Main Station Ground Water Expansion (\$1,085,000)** - The  
780       current raw water supply for the Main Station WTP includes both  
781       surface water and groundwater. The expansion of the groundwater  
782       supply through the addition of new wells will increase the groundwater  
783       supply to the plant. This increased supply of groundwater will have  
784       multiple advantages including: lower Total Organic Carbon levels  
785       necessary to reduce Disinfection By-Product (DBP) formation and  
786       meet pending regulatory changes, lower solids content allowing for  
787       higher performance of the existing flocculation tanks and clarifiers  
788       avoiding the construction of additional treatment units, higher winter  
789       water temperatures reducing the formation of ice on the treatment  
790       basins and providing better chemical reaction with treatment chemicals  
791       which results in lower chemical cost and a reduction in the required  
792       size of the new treatment plant clearwell to meet Contact Time (CT)  
793       requirements for disinfection.
- 794       • **Peoria – Groundwater Disinfection Improvements (\$8,400,000)** -  
795       This project includes new ammonia storage and feed systems and the  
796       replacement of chlorine gas storage and feed with liquid chlorine  
797       storage and feed at the Dodge and Griswold Well Stations. It also  
798       includes new clearwells, re-routing of well discharge piping, and new  
799       pump stations at these locations. Also included are ammonia storage  
800       and feed facilities at the San Koty WTP. The project will accompany  
801       the Peoria Main Station improvements completed in 2011, allowing the

Company to meet upcoming DPB and groundwater disinfection requirements while eliminating the storage and use of chlorine gas in the populated areas near the Dodge and Griswold Well Stations.

- **Pontiac – Pontiac WTP Ammonia and Other Chemical Feed Improvements (\$3,141,000)** - This project includes the construction of

a new chemical storage and feed facility at the existing Pontiac WTP. The new facilities will replace various chemical facilities throughout the plant to meet current storage and feed requirements and relocate some facilities from within the Vermillion River floodplain. The new facilities will increase reliability reduce hazards to employees, eliminate the use of chlorine gas, and add ammonia feed capabilities to meet upcoming Disinfection By-Products (DBP) regulations.

- **Statewide – Business Transformation – ERP System (\$12,434,000)**

- The Business Transformation project is discussed in detail in the testimonies of IAWC witnesses Mr. Twadelle (IAWC Ex. 9.00) and Mr. Grubb (IAWC Ex. 4.00).

## **VIII. MAJOR TEST YEAR CAPITAL PROJECTS**

**Q17. Please describe the major capital projects planned for completion during the test year (October 1, 2012 through September 30, 2013).**

**A.** The major capital projects planned for completion during the test year are as follows:

- **Alton – Alton WTP Carbon Feed System Modifications (\$380,000)** -

This project will improve water quality by increasing the capacity of the

current carbon feed system, allowing a higher dosage of powdered activated carbon to remove higher levels various contaminants that are sometimes present in the raw water.

- **Cairo – High/Low Service Pump Station Piping Improvements**

**(\$473,000)** - This project includes the replacement of several pump isolation valves and associated piping within the pump station at the Cairo WTP. Several existing valves are no longer reliable in their operation and do not provide adequate isolation of the pumps requiring a shut down of this critical pump station for maintenance and repairs.

- **Champaign – Tolono Pump Station Improvements (\$399,000) -**

This project includes the replacement of the structure and pumps at the Tolono Pump Station to address structural deficiencies and aging infrastructure of the existing station and allow for improved reliability. The replacement station will be a pre-fabricated pump station designed to meet anticipated peak demands of the growing community of Tolono.

- **Chicago Metro Water – Arbury Lake Water Connection**

**(\$1,000,000)** - This project includes the connection of the Arbury service area water distribution system to an adjacent Lake Michigan Water supply and conversion of the existing ground water supply wells to back-up service for this service area. The project will result in improved water quality for our customers.

• **Chicago Metro Water – River Grange Interconnect (\$481,000)** -

This project includes the connection of the River Grange service area water distribution system to an adjacent water supply system and removal from service of the existing ground water supply wells for this service area. The project will result in improved water quality and reliability for our customers.

• **Chicago Water – Rollins Fire Flow Improvements (\$1,012,000)** -

This project will include the construction of an elevated water storage tank to improve fire flow capacity within the service area. Additionally, the improvements will increase system pressure, reliability and fire flows for the Rollins service area.

• **Chicago Water – Chicago Suburban Interconnect (\$481,000)** - This

project includes the connection of the Chicago Suburban service area water distribution system to the adjacent Village of Wheeling water supply system through a metered control vault. This will provide a bi-directional emergency interconnect between the Village and IAWC water system. The project will provide both systems additional redundancy in supplying water under emergency and fire flow situations.

• **Chicago Water – Chicago Suburban Maintenance Site (\$613,000)** -

This project includes the construction or purchase of a suitable facility for a maintenance site in the Chicago Suburban service area. This

remote maintenance site will improve customer service response time and reduce future maintenance costs by reducing travel and mobilization time to the service area with trucks and equipment and by providing a location to store construction and repair materials.

- **Chicago Waste Water – Central States Lift Station and Forcemain**

**(\$649,000)** - This project involves the decommissioning of the existing Essington Commons wastewater treatment facility. Improvements include modification to an existing sanitary pump station and construction of a new forcemain to convey the service areas wastewater to the City of Joliet wastewater system for final treatment.

- **Interurban – Granite City WTF Basin/Clearwell Improvements**

**(\$3,011,000)** - This project will improve service reliability and aid in meeting anticipated disinfection requirements by increasing the existing WTP clearwell capacity and replacing the existing high service pump station. The project includes the construction of a new 3.25 million gallon clearwell with adequate capacity to meet disinfection contact time requirements using chloramines allowing for a reduction in potential Disinfection By-Product (DBP) formation and will increase the storage capacity in the system as requested by IEPA. The new high service pump station will replace existing pumps which are beyond their planned useful life with more energy efficient and reliable pumps and variable frequency drives.

- 891 • **Interurban – Greenmount Crossing Pump Station and Main**  
892 **(\$1,400,000)** - This project includes the construction of a new pump  
893 station and associated mains to serve the Shiloh pressure zone of the  
894 Interurban District. The existing underground pump station has  
895 outlived its intended useful life and is no longer adequate to meet  
896 customer service requirements for peak flows in the pressure zone.
- 897 • **Lincoln – Well Electrical Service Replacement (\$268,000)** - The  
898 existing electrical feed to the Lincoln South WTP supply wells is  
899 overhead and subject to damage from ice and wind storms as well as  
900 overhanging trees and flood debris. This project will install  
901 underground electrical cables to the wells to reduce the potential for  
902 interruption of the water supply for Lincoln.
- 903 • **Pekin – County Home Gradient Water Main Improvements**  
904 **(\$260,000)** - This project includes installation of variable frequency  
905 drives on both pumps of the existing Route 9 Booster Station to allow  
906 for station to reliably meet typical daily flows efficiently and effectively.  
907 The project will also include the installation of chlorine booster station  
908 to address low chlorine residuals that are experienced near the County  
909 Home Elevated Tank.
- 910 • **Pekin – Court Street Water Transmission Main (\$1,000,000)** - This  
911 project will address the excessive head loss that occurs along the  
912 existing 10-inch main on Court Street and the 6-inch main on 11<sup>th</sup>

Street and Park Avenue under current and future demand scenarios. The project is expected to include the installation of approximately 3,000 feet of 16-inch main south along 11<sup>th</sup> Street from Court Street to Park Avenue, then east along Park Avenue to Court Street.

- **Peoria – Office Relocation (\$1,500,000)** - This project includes the purchase of an office building and improvements to that facility to meet the needs of the District. The building will allow our district management offices to be relocated from the Peoria downtown area to a location approximately 2 city blocks from our distribution garage. This project will reduce overall expense compared to the currently leased office space and improve coordination/oversight between our management staff and field/construction staff.

- **Peoria - Distribution Yard Improvements (\$250,000)** - This project includes the addition of covered construction vehicle parking, additional paving and other access and security improvements to the distribution yard to protect large trucks and backhoes from winter weather conditions and improve storage conditions for large materials stored outside.

- **Streator – Reading and Columbus Water Main Replacement (\$500,000)** - This project includes the replacement of approximately 1,500 LF of an existing 6-inch water main with an 8-inch main along Columbus Street from Reading Street to Bridge Street and Bridge

Street from Columbus Street to Clark Street to address deficiencies in fire flow within the area and improve customer service and reliability.

- **Statewide – Business Transformation – EAM and CIS Systems (\$15,027,000)** - The Business Transformation project is discussed in detail in the testimonies of IAWC witnesses Mr. Twadelle (IAWC Ex. 9.00) and Mr. Grubb (IAWC Ex. 4.00).

## **IX. HISTORICAL CAPITAL EXPENDITURES**

**Q18. Have you reviewed the comparison of prior forecasts to actual data for capital investments contained in Schedule G to determine whether the Company is able to demonstrate the reliability and accuracy of its forecast data?**

**A.** Yes. Schedule G-1, page 2, compares actual capital expenditures to forecasts for the years of October 2008 to September 2009, October 2009 through September 2010, and October 2010 through September 2011. (The 2011 data contains 9 months of actual data and 3 months of forecast data). For the period of October 2008 through September 2011, the Net capital expenditures of \$233,843,223 were approximately 100.16% of the forecasted capital expenditure for that period. Net expenditures exclude contributions and advances made to the Company by developers, municipalities and the Illinois Department of Transportation (which do not represent actual IAWC spending). The amounts and timing of these contributions and advances are not under the control of IAWC, nor are they included in rate base. Therefore, the Company utilizes Net capital

958 expenditures to track capital spending.

959 **Q19. Do you have any additional information related to the comparison of**  
960 **prior forecasts to actual expenditures?**

961 **A.** The spending reported above shows that since establishing a state  
962 focused engineering group in 2008, IAWC has developed a very good  
963 overall system of planning and executing our capital program. On a year  
964 by year basis since 2008, IAWC has been improving on a methodology of  
965 developing, updating, and executing our 5-year Strategic Capital  
966 Expenditure Plan (SCEP). This methodology starts with a good  
967 comprehensive planning study for each district and includes a review of  
968 the needs and priorities identified in the planning study with the leadership  
969 of each District. It also involves multiple iterations each fiscal year to trim  
970 non-essential spending and focus resources across the state. Quarterly  
971 reforecasts of capital spending vs. planned budget are rigorously  
972 completed to track progress, adjust for changing or emerging priorities,  
973 and refocus resources as needed to execute our plan. This methodology  
974 enables IAWC to efficiently and consistently execute our annual capital  
975 budget.

976 **Q20. Can variances occur between budgeted and actual expenditures for**  
977 **a specific period?**

978 **A.** Yes. With any capital plan, there are variables which are outside the  
979 control of IAWC. Items such as unplanned main relocations required by a  
980 municipality or IDOT, large capitalized emergency work, delays in

obtaining easements or permits, contractor schedules and weather all influence the Company's ability to execute the capital plan, and it is not able to meet each and every project schedule and budget every year. However, by having a good project planning and budgeting process, IAWC is able to reduce the impact of these variables. Through annual budgeting and quarterly reviews, IAWC is able to identify which projects are subject to potential delays, shift the timing of some projects by weeks or months, and, in some cases, accelerate projects forward a year while moving other projects back a year to accommodate these variables on a project-by-project basis. This ability to efficiently control a wide variety of projects allows IAWC to efficiently spend our capital dollars and meet a planned budget consistently year after year.

**X. DIRECT MEASUREMENT DEMAND STUDY**

**Q21. Did the Commission's Order in IAWC's last rate case, Docket No. 09-0319, require a demand study?**

**A.** Yes. In that Order, the Commission directed IAWC to perform a direct demand study (the "Demand Study") for use in future rate proceedings in Illinois. The Commission further directed IAWC to:

develop a request for qualifications for independent firms to determine any and all entities capable of performing the direct demand study. IAWC should then issue a request for proposal amongst firms meeting these qualifications to perform a preliminary planning study to determine the project cost, and will report the results to the Commission. The preliminary planning study report should explain in detail how the independent firm will undertake the required

direct demand study including a discussion of the types and locations of meters it intends to install and of the data it intends to collect. It should also explain how the independent firm will analyze the data collected; provide cost estimates for each aspect of the direct demand study and an estimate of when the direct demand study will be completed. The firm selected to perform the direct demand study shall be independent of IAWC, its affiliates, Staff, and all parties in this docket. IAWC is required to submit the preliminary planning study to the Commission as a compliance filing in this docket within 120 days after the Order in this proceeding is entered. (Docket No. 09-0319, Apr. 13, 2010 Final Order, p. 151.)

**Q22. What is a demand study?**

**A.** A demand study reviews the ratio of peak day and peak hour demand to average annual demand for each customer class. A direct measurement demand study accomplishes this by recording the peak day and hour demands of a sample of individual customers using metering equipment installed at each customer location.

**Q23. Did IAWC comply with the Commission's directive to develop qualifications for, evaluate and select a firm capable of performing the preliminary planning study report?**

**A.** Yes. As explained in the Interim Preliminary Planning Study Report which I prepared and which the Company filed with the Commission in Docket No. 09-0319 on June 17, 2010, IAWC issued both a Request for Qualifications ("RFQ") and a Request for Proposals ("RFP"), which resulted in selection of Black & Veatch Corporation ("B&V") as the independent firm engaged to prepare the preliminary planning study report

1035 (the "Preliminary Report") and, ultimately, the Demand Study. (Docket No.  
1036 09-0319, June 15, 2010 Interim Preliminary Planning Study Report  
1037 ("Interim Report") (filed June 17, 2010).)

1038 **Q24. Please explain further IAWC's RFQ process.**

1039 **A.** IAWC prepared and distributed the RFQ by overnight UPS courier on  
1040 April 22, 2010, and requested that responses be provided on or before  
1041 May 3, 2010. IAWC identified 18 consulting firms to receive the RFQ.  
1042 Prior to issuance of the RFQ, IAWC submitted both a draft of the RFQ and  
1043 the proposed list of firms to the Commission's Staff and to parties to  
1044 Docket No. 09-0319 that raised concerns regarding the Capacity Factors  
1045 Report submitted by IAWC in that proceeding, including the Office of the  
1046 Illinois Attorney General and Illinois Industrial Water Consumers. None of  
1047 those parties provided IAWC with comments concerning the RFQ or  
1048 proposed list of firms.

1049 The firms to which IAWC chose to send the RFQ were large and  
1050 experienced water engineering firms, with the potential to have adequate  
1051 knowledge and expertise related to the performance of demand factor  
1052 studies, metering, water distribution system operation, engineering and  
1053 other disciplines necessary to develop plans, specifications, and cost  
1054 estimates for the Direct Study. Of the firms that received the RFQ, only  
1055 one, B&V, provided qualifications in response. Four other firms provided  
1056 e-mails or written correspondence indicating that they would not be  
1057 responding. No other responses were received. IAWC determined that

1058 B&V demonstrated the appropriate knowledge and expertise in the various  
1059 areas identified by the RFQ. Based upon the information provided by  
1060 B&V, IAWC considered B&V to be a qualified, independent consulting firm  
1061 capable of performing the Preliminary Report and, ultimately, the Demand  
1062 Study, in accordance with the requirements of the Docket 09-0319 Order.  
1063 IAWC provided a copy of B&V's RFQ response to the parties noted above.

1064 **Q25. What was the next step in the process?**

1065 **A.** Of the four firms referenced above that responded to the RFQ by e-mail or  
1066 letter, two indicated they did not have adequate time to become familiar  
1067 with the Preliminary Report requirements and prepare a response within  
1068 the designated timeframe. Due to these indications and the fact that only  
1069 one response was received, IAWC believed that other firms who received  
1070 the RFQ may have failed to respond for the same reason. Therefore, to  
1071 create an additional opportunity for firms to respond, IAWC determined it  
1072 would be appropriate to re-send the RFQ along with the RFP to all 18  
1073 firms that initially received the RFQ. Firms which did not initially provide a  
1074 RFQ response were invited in the RFP to submit responses to the RFQ  
1075 and the RFP simultaneously.

1076 **Q26. What were the results of the RFP?**

1077 **A.** The RFP was sent to the 18 firms via UPS overnight delivery on May 5,  
1078 2010. Responses to the RFP (and the RFQ, for those firms that did not  
1079 previously respond to the RFQ) were due May 26, 2010. Of the firms to  
1080 which the RFP was sent, only B&V provided a response. Three firms

provided e-mail or written correspondence indicating that they would not be responding with a proposal. No other responses to the RFQ or RFP were received.

**Q27. Why was B&V ultimately selected to develop the Preliminary Report?**

**A.** Based on B&V's RFQ and RFP responses, IAWC determined that B&V should be selected to prepare the Preliminary Report. As discussed above, B&V is an independent firm with the knowledge and expertise necessary to perform the Preliminary Report. B&V previously prepared the indirect demand study submitted by IAWC in Docket No. 09-0319 and so is familiar with IAWC's operations and demand data. Moreover, IAWC believed that B&V's approach for performance of the Preliminary Report as described in detail in its RFP response was sound. Finally, as indicated in that response, the not-to-exceed cost estimate for B&V's work related to the Preliminary Report was \$175,000, which IAWC deemed reasonable.

**Q28. Did B&V prepare the Preliminary Study?**

**A.** Yes. On August 11, 2010, in Docket No. 09-0319, IAWC timely filed the Preliminary Demand Study Report prepared by B&V, as directed by the Commission's Docket No. 09-0319 Order. (Docket No. 09-0319, Aug. 11, 2010 Preliminary Demand Study Report (the "Preliminary Report").)

**Q29. Please discuss the direct demand study proposed in the Preliminary Report.**

1103 **A.** The Preliminary Report contained B&V's recommended approach for  
1104 using direct measurement to gather demand data for future cost of service  
1105 studies. It explained in detail how B&V (with data gathering support from  
1106 IAWC) would undertake the Demand Study, discussed the numbers, types  
1107 and locations of meters to be installed, and addressed the data to be  
1108 collected. The Preliminary Report also explained how the data would be  
1109 analyzed. It further provided cost estimates for each aspect of the  
1110 Demand Study, and an estimate of when the Demand Study would be  
1111 completed

1112 **Q30. Did the Commission's Staff review the Preliminary Report?**

1113 **A.** Yes. Staff reviewed the Preliminary Report and, in the fall of 2010, met  
1114 with Company representatives to address the proposed Demand Study  
1115 approach, as set forth in the Preliminary Report, along with other related  
1116 issues such as the size and makeup of the customer sample.

1117 **Q31. What was Staff's response to the Preliminary Report?**

1118 **A.** On January 6, 2011, Staff filed a Report with the Commission concluding  
1119 B&V's proposed direct measurement approach to gather demand data for  
1120 future cost studies "appears reasonable and cost-effective." (Docket No.  
1121 11-0058, Staff Report to the Commission, p. 2 (Jan. 6, 2011).) In its  
1122 Report, Staff further noted the "significant" cost savings resulting from  
1123 B&V's proposed approach for collection of data. That is, Staff recognized  
1124 that meters IAWC is currently installing across its service territories are  
1125 capable of gathering the requisite data. As such, Company employees

can download the requisite data from individual customers in the survey in about five minutes, thereby reducing the anticipated cost of the study. Staff also found reasonable B&V's proposed sample of customers to participate in the demand data collection process. Staff accordingly recommended, "given the level of expected costs and the reasonableness of the sample" and "consistent with [the Company's] proposed methodology," that "the Commission order IAWC to proceed with its proposed demand study analysis in an expeditious manner."

**Q32. Did the Commission approve the Preliminary Report?**

**A.** Yes. The Commission opened Docket No. 11-0058 for the purpose of determining the cost-effectiveness of the Company's proposed Demand Study and reviewing the Preliminary Report. The Commission's January 20, 2011 Order in that proceeding adopted Staff's recommendations noted above, found B&V's recommended approach for the Demand Study to appear reasonable and cost-effective, and ordered IAWC to "proceed with its recommended direct demand study analysis in an expeditious manner, and within 90 days [to] file a progress report with the Commission . . . containing, among other things, a projected timeline for the project." (Docket No. 11-0058, Order, p. 3 (Jan. 20, 2011).)

**Q33. Has IAWC filed the requisite progress report?**

**A.** Yes. I prepared a Demand Study Progress Report (the "Progress Report") which IAWC filed with the Commission in Docket No. 11-0058 on April 11, 2011.

**Q34. What steps did IAWC then take with respect to the Demand Study?**

**A.** As detailed in the Progress Report, immediately after receiving the Commission's January 20, 2011 Order, IAWC contacted B&V regarding timing and execution of the study. Thereafter, B&V and IAWC developed a methodology and process for collection and transfer to B&V of the historical customer and system data necessary to complete the Demand Study. By the end of March 2011, IAWC had provided the requisite data to B&V and B&V began evaluating the same. Based on its evaluations, in April 2011, B&V verified the number and location of the customer meters to be monitored and the Company began installing the necessary meters for the study in May 2011. With the installation of the meters in May 2011, the Company began capturing hourly usage data for the monitored customers on the meter units. In the first week of August, 2011 the Company began collection of up to 96 days of historical hourly usage data from the meters for all customers included in the study and B&V utilized this data to complete the first iteration of the Demand Factor Determination. Data collection again occurred in the first week of September 2011 for August data and the first week of October 2011 for September data. To date, IAWC has collected and B&V has analyzed the customer usage data through the end of September 2011.

**Q35. Please summarize the analysis of the data collected.**

**A.** The Neptune meters utilized for the study capture the usage of the customers each hour and sort that data for the previous 96-day period.

1172 This hourly usage information is then downloaded by IAWC field  
1173 personnel and checked for errors, faulty recording, etc. The data is then  
1174 compiled in a spreadsheet and forwarded to B&V for their use in  
1175 determining the Demand Factors.

1176 **Q36. Has IAWC experienced a system peak during 2011?**

1177 **A.** Yes. The Company experienced peak daily usages in July of 2011 that  
1178 were generally greater than those experienced in the past two to three  
1179 years. However, it should be noted that these peak usage periods in 2011  
1180 did not reach historical peak usage of the past ten years and were  
1181 typically considerably lower than the peak usages that had been used in  
1182 the previous indirect demand study effort.

1183 **Q37. Has IAWC prepared demand factors for use in this proceeding?**

1184 **A.** Yes. B&V has completed a Demand Study Report which sets out the  
1185 proposed demand factors based on the direct measurement study. The  
1186 Demand Study Report is attached as a supporting work paper to IAWC's  
1187 Schedule E-6, IAWC's embedded cost of service study, pursuant to 83 Ill.  
1188 Adm. Code § 285.5305(c)(2)(B). IAWC witness Mr. Herbert discusses the  
1189 demand factors further in his Direct Testimony (IAWC Ex. 11.00).

1190 **Q38. How has the Company used the Demand Study in this proceeding?**

1191 **A.** IAWC has incorporated the results of the Demand Study in its proposed  
1192 rate design in this proceeding, as discussed further by the Direct  
1193 Testimony of IAWC witness Mr. Herbert.

**Q39. Will the Company continue to collect direct demand data?**

**A.** Yes. As reflected in the Progress Report, IAWC intends to continue collecting direct demand data through 2013. IAWC will use this data to refine its demand factors for future use.

**XI. PRODUCMENT OF SERVICES FROM THE SERVICE COMPANY**

**Q40. Generally, what are IAWC's engineering needs?**

**A.** IAWC has both professional and operational engineering requirements relating to the design, construction, and operation of the facilities necessary to provide adequate and reliable water and wastewater utility service.

**Q41. How does IAWC meet its engineering needs?**

**A.** Primarily through IAWC's engineering department, which consists of 20 in-house engineers and support staff that I supervise and who largely focus their time on management of engineering and construction projects. However, my team of engineers does not meet all of IAWC's professional engineering needs. IAWC must also hire outside consultants, project inspectors, and other independent contractors to ensure the Company's engineering and construction projects are efficiently and cost-effectively completed.

**Q42. As Director of Engineering for IAWC, how do you procure the outside professional services necessary to meet IAWC's engineering and construction needs?**

**A.** Projects are outsourced to third parties based on considerations of cost

1217 effectiveness, quality of service, timeliness of service provision, reliability  
1218 of service and adequacy of alternate suppliers, as well as technical  
1219 engineering expertise, scheduling concerns and the need for  
1220 standardization of services. It is the policy of IAWC's engineering function  
1221 to competitively procure most projects, unless there is a reason to obtain  
1222 the services from a sole source. For competitive procurement, IAWC  
1223 issues Requests for Proposals ("RFPs") to outside vendors.

1224 **Q43. Does IAWC utilize the Service Company for outside services?**

1225 **A.** Yes. For competitive procurement, IAWC may issue an RFP to the  
1226 Service Company. In some cases, such as where the Service Company  
1227 has expertise with respect to a particular project, where a project's  
1228 timeline is brief, or where there is a need for consistency across American  
1229 Water operating companies, the Service Company is the sole source  
1230 considered for the services. In those instances, I must approve the use of  
1231 and justification for such sole source procurement.

1232 **Q44. What are the advantages to using the Service Company as a**  
1233 **provider?**

1234 **A.** As explained below, one reason IAWC utilizes the Service Company, for  
1235 services such as GIS implementation, is cost. In instances when  
1236 Company has competitively bid the Service Company against outside  
1237 consultants for this work, the Service Company has been significantly less  
1238 expensive. In other technical areas, the Service Company may have  
1239 specific experience with issues such as chemical storage and feed

systems and our corporate guidelines for how these systems are to be designed. Utilizing the Service Company for these projects requires less guidance by the IAWC staff as compared to an outside consultant and can greatly reduce the time and effort required for contract negotiations. Other advantages of using the Service Company include the ability utilize their staff to provide temporary help to manage peak work loads or unique projects without the IAWC staff having to spend time instructing an outside consultant on our internal processes and procedures. Service Company staff already know how to utilize IAWC's systems, such as PowerPlant and JD Edwards. The Comprehensive Planning Studies are an area in which IAWC frequently utilizes the service Company for professional services. IAWC's specific models for calculating demand projections and its methodology for prioritizing projects are very efficiently completed by the planning staff of the Service Company. Overall, certain specific engineering services which the Service Company provides to IAWC are most efficiently handled by the Service Company because of their familiarity with IAWC's internal systems and methods, the reduced time that IAWC employees must spend training consultants in these systems, and in many cases the lower hourly labor costs that the Company sees from the Service Company.

**Q45. Please provide a recent example of a project which was sole sourced to the Service Company.**

**A.** Recently, IAWC engaged the Service Company's services for a chemical

1263 storage and feed building project in our Pontiac District. The Service  
1264 Company has specific chemical storage and feed requirements which we  
1265 follow to ensure safe and regulatory compliant storage and use of the  
1266 chemicals. Thus, it was most cost-effective and efficient to use the  
1267 expertise of the Service Company for that project.

1268 **Q46. Are there circumstances when IAWC does not use the Service**  
1269 **Company's professional engineering services?**

1270 **A.** Yes. IAWC does not use the Service Company when the project at issue  
1271 requires highly technical services of a type which are not offered by the  
1272 Service Company or when the amount of work required would exceed the  
1273 resource capacity of the Service Company. Also, in some circumstances,  
1274 it may be less costly to use an outside vendor due to their particular  
1275 experience with the type of project or proximity to the work. Also,  
1276 construction work is not performed by the Service Company; that work is  
1277 performed by non-affiliated vendors/contractors.

1278 **Q47. Please provide a recent example of a project which was**  
1279 **competitively procured by IAWC's engineering function.**

1280 **A.** IAWC is currently converting its distribution system mapping from an  
1281 AutoCAD software format to a Geographical Information System (GIS)  
1282 format which contains much more specific information on the pipes,  
1283 valves, etc. indicated on the maps. IAWC issued an RFP for the GIS Data  
1284 Conversion Services project and considered the proposals of three  
1285 bidders, the Service Company included. Ultimately, I recommended that

1286 the project be awarded to the Service Company based on the quality of its  
1287 work on prior similar projects, the compliance of its proposal with IAWC's  
1288 RFP, and its proposed lower cost.

1289 **Q48. How do the rates charged by the Service Company's Engineering**  
1290 **function compare to those of nonaffiliated vendors?**

1291 **A.** Typically, the Service Company's rates are less. The average Service  
1292 Company cost for the GIS project mentioned above per the RFP response  
1293 submitted by the Service Company was \$56.51 per hour. The average  
1294 costs of the remaining two bidders were \$72.00 and \$190.72 per hour.  
1295 Further, our experience on other projects and from my own past  
1296 experience as a consulting engineer indicates that the Service Company  
1297 hourly fees are typically less than those of outside consultants.

1298 **Q49. Do you negotiate Service Company proposals in outsourcing**  
1299 **projects?**

1300 **A.** Yes. Prior to engaging the Service Company to complete a project, it will  
1301 submit a proposal of costs and man hours, like any other vendor. IAWC  
1302 evaluates the proposal and suggests changes if we believe the costs are  
1303 not representative or if we suspect there is a misunderstanding of the work  
1304 necessary. Thus, there is a negotiation process. IAWC employs the  
1305 same negotiation process with nonaffiliated vendors.

1306 **Q50. How do you ensure cost control in outsourcing projects?**

1307 **A.** All vendors, including the Service Company, must submit project budgets

for the work to be completed. They must adhere to those budgets unless a change has been justified and the appropriate change order approved. Moreover, my staff reviews all vendor invoices. If an invoice appears too high based upon the work completed to date or our understanding of the project budget, we ask for an explanation of the charges and challenge them if necessary. We have found that most often the charges are justified after some explanation. However, in some instances, we have found errors in billing rates, charges that were miscoded by the vendor, and other errors which have been corrected and a revised invoice has been reissued. Through our review of the invoices, we strive to ensure no charges are incorrectly approved and thus control costs.

**Q51. Are there other ways IAWC's Engineering function benefits from the services supplied by the Service Company?**

**A.** Yes. I often engage the services of the Service Company's Supply Chain function. This function is able to leverage the purchasing power of the entire American Water System to secure favorable pricing and contract terms for items such as ductile iron pipe. The Supply Chain staff periodically aids the IAWC Engineering staff in the evaluation and award of construction bids, and assists with the preparation of Master Service Agreements with some of the external engineering firms that have repeat work with IAWC. American Water and IAWC individually have Master Service Agreements with large national engineering firms and smaller local engineering firms for set hourly labor charges and contract terms and

conditions. Supply Chain has been instrumental in negotiating such contracts. These Master Service Agreements help reduce the time necessary to prepare and negotiate contract terms for each project an engineering firm may be selected to complete. It also provides contracting expertise and applies standardized contract terms and practices throughout American Water and IAWC's service areas, thereby avoiding situations where IAWC's individual service areas have inconsistent contract terms, pricing and practices. All of these services allow IAWC's individual Engineering function to focus more time on project engineering and construction rather than contracting. Therefore, the function operates more efficiently.

**Q52. Are there other examples of IAWC's use of Service Company's Supply Chain services?**

**A.** Yes. The Service Company's Supply Chain is currently working with IAWC Engineering and other state engineering groups to identify and contract for standardized types of material and equipment. These materials and equipment include electrical generation equipment, chlorine generators for well and booster stations, chemical feed pumps, chemical storage tanks, and electric pump motors. This standardization will allow IAWC to utilize standard contract terms and conditions when acquiring these products thereby avoiding the need to individually research, select and negotiate for their purchase, and will help ensure that proper technical review of the equipment and materials has been performed prior to purchase.

1354 **Q53.** Does this conclude your testimony?

1355 **A.** Yes.